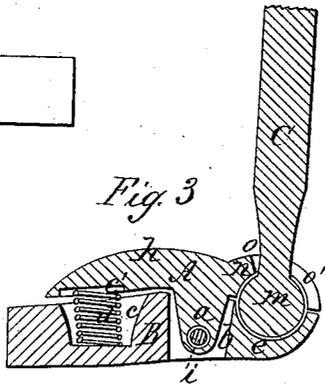
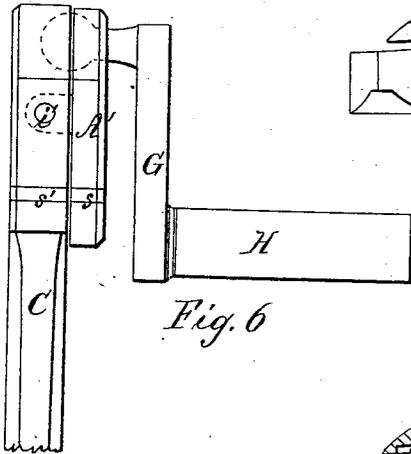
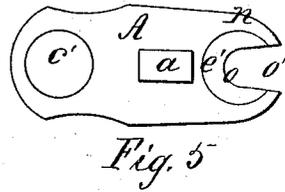
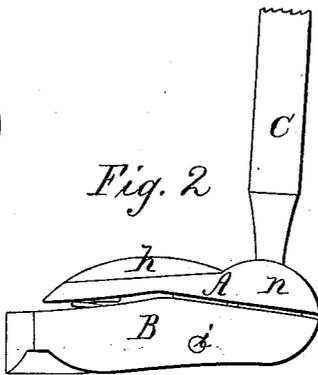
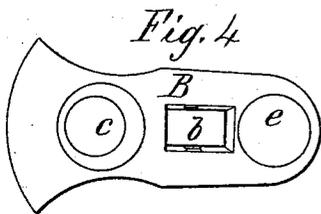
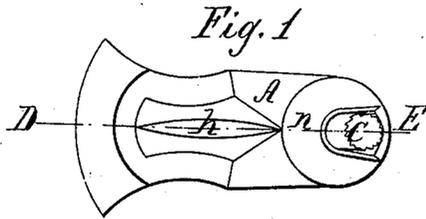


J. CRANDELL.

TREADLE ATTACHMENT FOR SEWING MACHINES.

No. 81,346.

Patented Aug. 25, 1868



Witnesses
E. P. Kendrick
W. S. Clark

Inventor
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by Buckland & Curtis
their Attorneys.

United States Patent Office.

JOHN CRANDELL, OF CHICOPEE, MASSACHUSETTS, ASSIGNOR TO LAMB
KNITTING-MACHINE MANUFACTURING COMPANY.

Letters Patent No. 81,346, dated August 25, 1868; antedated August 17, 1868.

IMPROVEMENT IN TREADLE-ATTACHMENT FOR SEWING-MACHINES.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN CRANDELL, of Chicopee, in the county of Hampden, and Commonwealth of Massachusetts, have invented a new and improved Treadle-Attachment for Sewing-Machines; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon.

My invention consists in a certain construction and application of a ball-and-socket joint, and is designed to connect the foot-treadle of a sewing-machine with the lower end of the connecting-rod, which communicates power to the main or driving-shaft of the machine, and also to connect the upper end of such rod with the crank or winch upon the main shaft, or to be applied to either end of the connecting-rod, without reference to the method of attachment, which is made at the opposite end.

In said drawings—

Figure 1 is a plan view of said attachment as applied at the treadle-end of the connecting-rod, the latter being shown as broken off.

Figure 2 is a side elevation of the same.

Figure 3 is a longitudinal vertical section through the line D E, fig. 1.

Figure 4 is a plan view of one of the two parts which constitute the socket portion of the attachment, and

Figure 5 is a plan view (reverse) of the other of said parts.

Figure 6 is a side elevation of said attachment, as applied to connect the upper end of the connecting-rod and the crank on the main shaft.

The construction of my invention is as follows, the attachment being first described as applied at the lower or treadle-end of the connecting-rod, and afterwards at the upper end:

At the end of the connecting-rod C, (a part only of which is shown,) is formed the spherical part *m*, which constitutes the ball portion of the attachment.

The socket portion consists of the part B and the cap A, the former of which is to be attached to the treadle, or cast in one piece with it. The form of the sides and under face of B is immaterial, the only object being to make its weight as small as possible, consistently with the uses to which it is to be applied. In the upper face of B is formed the recess *e*, as a seat for one end of the spiral spring *d*, the other end of which rests in the shallow recess *e'* in the cap A. To connect the cap to the main part B, an ear, *a*, is formed upon the cap A, and the rectangular opening *l* in the part B to receive it.

The tapering pin *i*, passing through the sides of the opening *b*, and through a hole in the ear *a*, hinges the cap to the main part.

A conclave recess, *e*, figs. 3 and 4, which is hemispherical, or nearly so, is formed in B, and serves as a seat for the ball *m*. A recess, *e'*, of like section, except as cut away at *o'* to allow the stem of the ball to project, is formed in the cap A.

It will be seen (fig. 1) that the edges of the cap around the elongated opening *o'* are bevelled, so as to allow some inclination of the connecting-rod, and that, when the ball is inserted in the socket, and the two parts A and B are hinged together, the inner faces of A and B do not come in contact, and that, as the surfaces of the ball and its socket are worn away, the socket-end of the cap will still be pressed down upon the ball by the spring *d*, and all looseness of the ball will be prevented.

The method of applying the joint to the upper end of the connecting-rod is shown in fig. 6, the connecting-rod C being shown therein as broken off.

In the latter application, the part, B', is attached to or made a part of the connecting-rod, while the ball and its stem are attached to and make a part of the crank G upon the main shaft H. The construction of the socket, and the parts which contain it, and of the ball, are substantially the same as in the before-described application of the device to the treadle-end of the rod.

What I claim as my invention, and desire to secure by Letters Patent, is—

A treadle-attachment, consisting of the piece B and cap A hinged thereto, spring *a*, the socket formed in A and B, and the ball *m* formed upon the connecting-rod C, or upon the crank G, the whole arranged and operating substantially as described.

Witness my hand, this 9th day of December, A. D. 1867.

JOHN CRANDELL.

Witnesses:

J. P. BUCKLAND.

N. B. SMITH.